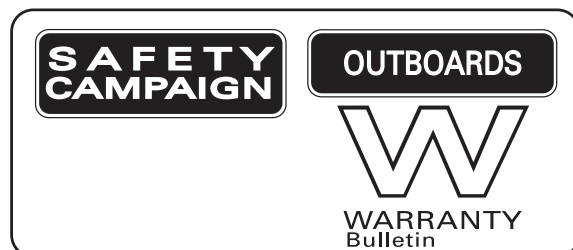


Please route to:

☐ Service ☐ Init.

☐ Sales ☐

☐ Parts ☐



⚠ WARNING: All involved customers must be notified, all involved units must be corrected as per instructions herein.

Date: May, 2003

No. 2003-01(W)

MODELS: 2002 & 2003 (SN/ST) Model Year
75 HP through 175 HP Evinrude Direct
Injection Outboards

SUBJECT: Fuel Manifolds

AFFECTED MODELS

Identify model and serial number before performing any service procedures.

IMPORTANT: DO NOT sell, deliver, or use any affected models until you have performed the inspection or repair as outlined in this bulletin.

Model	Year	Serial Number Range
60° V4 75 through 115 HP	2002 (SN) & 2003 (ST)	4996724 through 4999230
60° V6 135 through 175 HP	2002 (SN) & 2003 (ST)	4993888 through 4997951

PROBLEM

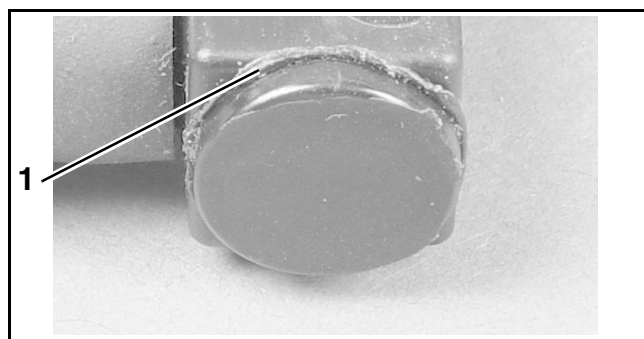
The fuel supply or return manifolds could loose an end cap, resulting in a fuel leak. A fuel leak, when combined with an ignition source, could result in a fire or explosion and present a risk of serious personal injury.

INSPECTION

IMPORTANT: The inspection and repair procedures outlined in this bulletin **MUST** be performed by an authorized *Evinrude/Johnson Dealer* and *Evinrude/Johnson Certified Technician*.

Visually inspect **both** supply and return fuel manifold assemblies for proper welding at plug area.

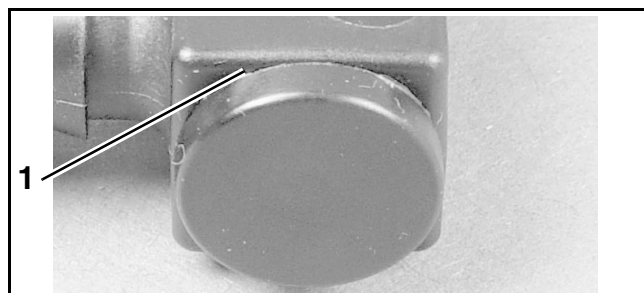
A proper weld shows evidence of flashing all the way around the outside of the cap.



1. Proper weld (flashing around cap)

001732

An incomplete weld shows a lack of or no evidence of flashing around the outside of the cap.

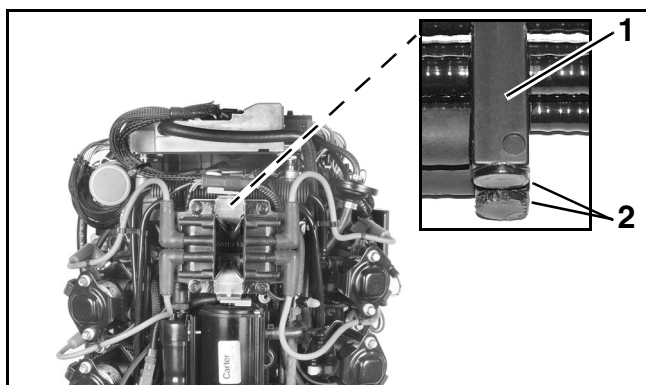


1. Incomplete weld

001733

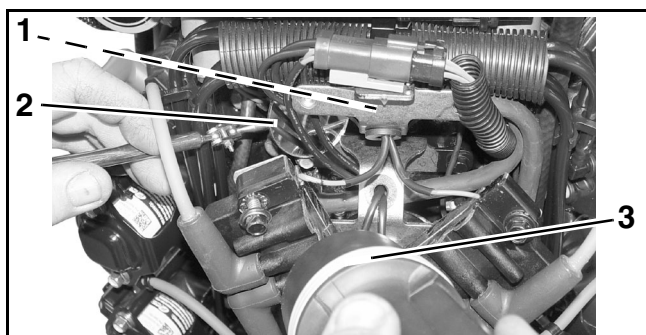
The use of a flashlight and/or small mirror are recommended to properly inspect the weld area.

To inspect **60° V4** models, remove ignition coils from bracket and swing them out of the way to view fuel manifold plug area behind ignition coil bracket.



60° V4 Model
1. Fuel manifold
2. Plugs (2)

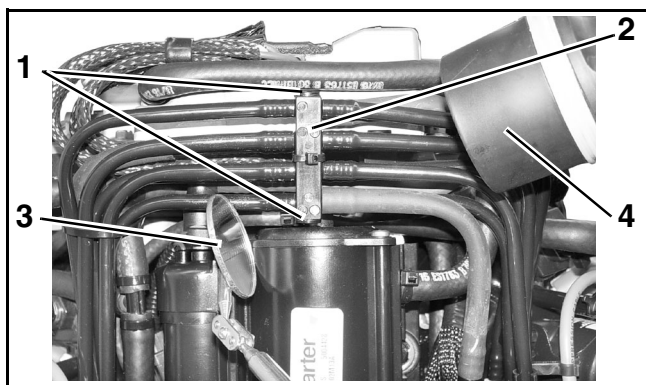
001735
001736



60° V4 Model (Ignition coils removed)
1. Fuel manifold
2. Inspection mirror
3. Flashlight

001737

To inspect **60° V6** models, visually inspect upper and lower plugs of manifold.



60° V6 Model
1. Plugs (2)
2. Fuel manifold
3. Inspection mirror
4. Flashlight

001734

ORDERING PARTS

ONLY Authorized Dealers may order parts.

If replacement is required, replace the fuel manifold assembly with a new fuel manifold assembly as listed.

To order a new fuel manifold assembly, choose the correct P/N listed below and **fax the order to 847-689-7235.**

The order FAX form **MUST** include the following:

- Date of order
- Dealer Name and Dealer Code
- Dealer Phone Number
- Each Engine Model and Serial Number parts are needed for.

Please clearly PRINT or TYPE your order on dealer letterhead or paper to ensure efficient order processing.

Parts Needed		
Fuel Manifold Assembly	P/N	QTY
60° V4 75 through 115 HP	5005405	1
60° V6 135 through 175 HP	5005408	1

Parts will be shipped at no charge.

REPLACEMENT PROCEDURE



WARNING



Wear safety glasses at all times when working on any part of the fuel system.

Gasoline is extremely flammable and highly explosive under certain conditions. Use caution when working on any part of the fuel system:

- Always disconnect the battery cables at the battery before servicing the fuel system unless instructed to do otherwise.
- Always work in a well ventilated area and wipe off any fuel spillage.
- **DO NOT** smoke and make certain no open flames or ignition sources exist.

After servicing the fuel system check for leaks. Failure to check for fuel leakage could allow a leak to go undetected, resulting in fire or explosion.

RELIEVING FUEL SYSTEM PRESSURE



WARNING



Protect against hazardous fuel spray. Before starting any fuel system service, carefully relieve fuel system pressure.

MODELS WITH PRESSURE TEST VALVE

Disconnect battery cables at the battery.

Connect fuel pressure gauge, P/N 772959, to pressure test valve in fuel return manifold.

Insert gauge venting hose into suitable container.

Slowly open gauge's venting valve. Clean up any spilled fuel with shop towels.

MODELS WITHOUT PRESSURE TEST VALVE

Disconnect battery cables at the battery.

Wrap a shop towel completely around the return fuel pump connector to minimize fuel spray when disconnecting.

Press the fuel pump connector release button and slowly pull the connector off the fuel pump.



Towel removed for clarity

1. Release button
2. Return fuel pump connector

001743

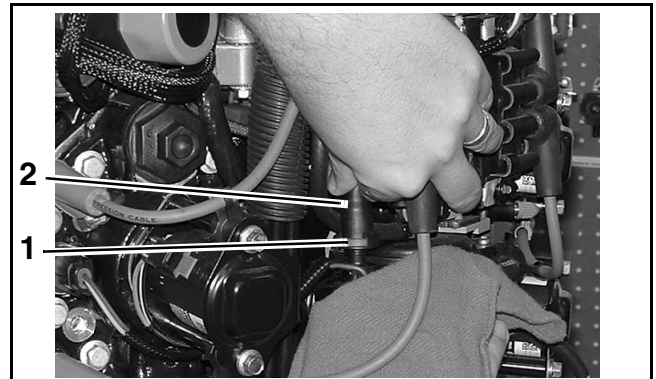
Drain any residual fuel remaining in the system into a suitable fuel container.



1. Container

001744

Disconnect the supply fuel pump connector in the same manner as the return connector. Drain any residual fuel remaining in the system into a suitable fuel container.



Towel removed for clarity

1. Release button
2. Supply fuel pump connector

000703

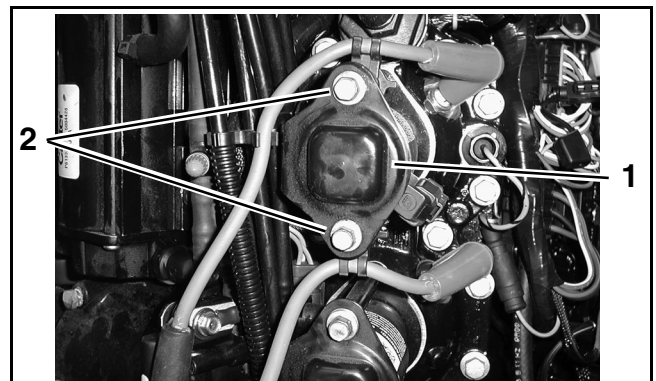
FUEL MANIFOLD REPLACEMENT

Remove high tension spark plug leads and the retainers used to position the spark plug leads.

IMPORTANT: Note the proper locations and positioning of all spark plug leads and retainer clips prior to disassembly.

Mark fuel injectors to indicate cylinder positioning.

Remove the fuel injector retainer screws.



1. Injector retainer
2. Screws

000203

Disconnect all fuel manifold fittings from fuel injector ports and vapor separator/pump assembly.

Remove any tie straps, guards or components used to secure manifolds in place and remove fuel manifolds.

Installation

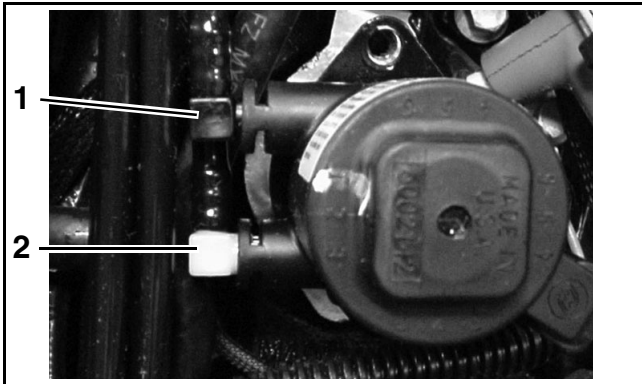
IMPORTANT: Refer to *Evinrude Service Manual*, P/N 5005259, and clean all thread-lock material residue from the following areas (**DO NOT CONTAMINATE INJECTOR PORT OR TIP AREA**):

- Injector mounting threads in cylinder head
- Screw threads

Install new fuel manifolds in same position as originals.

Position injectors in the proper cylinder location.

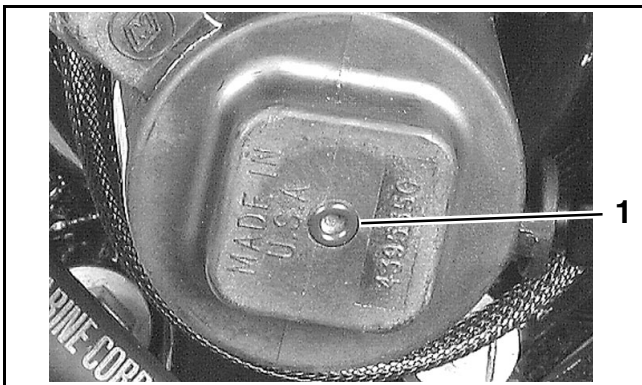
Confirm condition of sealing O-rings of fuel manifold fittings. Lubricate with *Evinrude direct injection* oil and insert the new fuel manifold fittings into injector. Both fittings must be fully seated into the injector fuel ports.



1. Fuel return manifold fitting
2. Fuel supply manifold fitting

000014

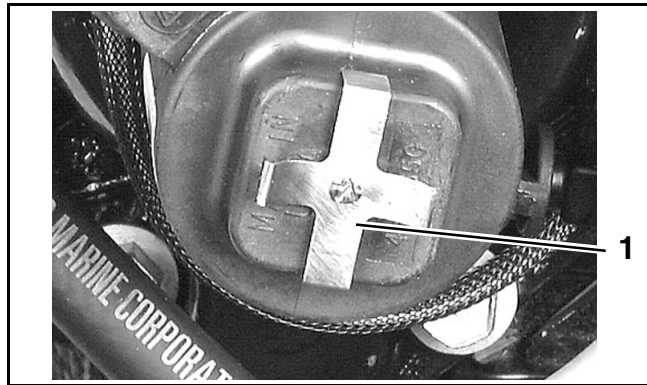
Place small O-ring in depression on the end of injector.



1. O-ring

DP0361

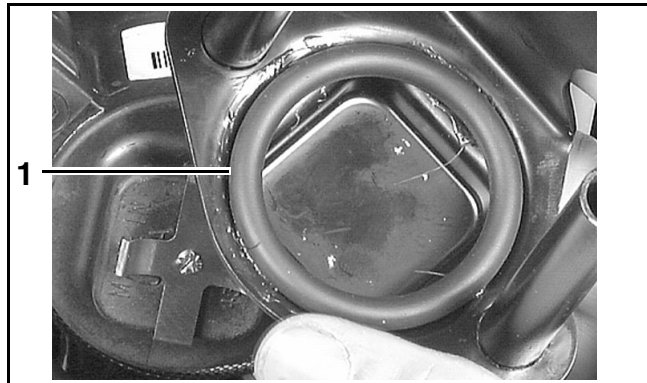
Place spring assembly over end of injector. The pin in the center of the spring should be positioned in the small O-ring.



1. Spring assembly

DP0362

Install large O-ring on inside of injector retainer. O-ring can be glued in place with *Evinrude/Johnson Type "M" Adhesive™*.

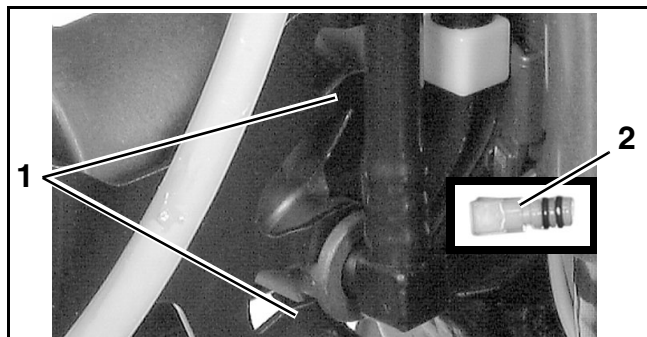


1. O-ring

DP0363

Install injector retainer over the end of injector.

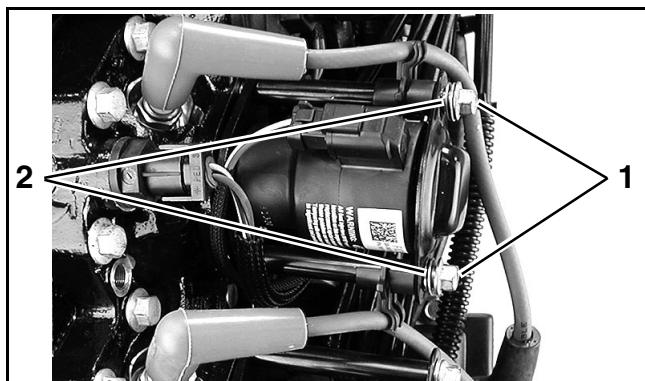
IMPORTANT: The flanges on the injector retainer must engage the outer groove of the fuel manifold fittings. Be careful not to pinch any wiring or hoses during assembly.



1. Injector retainer flange
2. Outer groove of fuel manifold fitting

DP0365

Apply *Locquic® Primer* and *Nut Lock™* to the threads of the injector/fuel fitting screws. Apply a thin coat of *Triple Guard®* grease to the two washers and install on each screw. Insert screws with washers into retainer sleeves.



1. Screws
2. Washers (two on each screw)

000233

Torque screws in stages, starting with the lower screw. Final torque is 144 to 168 in. lbs. (16.3 to 19 N·m).

Repeat the above process for the remaining injectors.

Connect the fuel manifolds to vapor separator/pump assembly. An audible click will signal proper connection. In addition, the fuel pump connector release button should pop out to a flush position.

To verify a proper connection, pull on the connector without pressing the release button. The connector should not disconnect from the high pressure fuel pump.

Install tie straps to secure fuel manifolds in place.

Install high tension spark plug leads and the retainers used to position the spark plug leads.

Install any components removed during removal for access to fuel manifolds.

Thoroughly clean any spilled or residual fuel from the engine.



WARNING



Failure to check for fuel leakage could allow a leak to go undetected and, when combined with an ignition source, result in a fire or explosion.

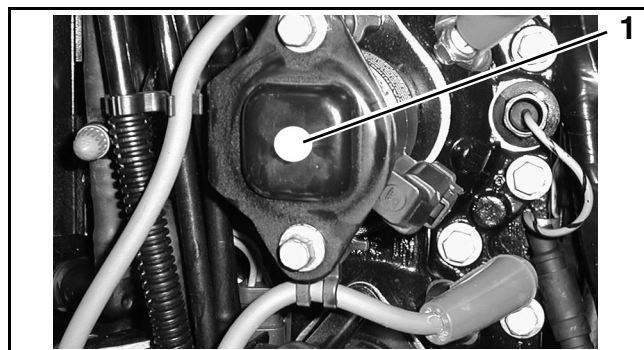
Reconnect battery cables.

IMPORTANT: Refer to Predelivery Service Bulletin (D 2002-01) for fuel system purging instructions and starting procedures. After initial fuel system pressurization, **inspect all fuel system components for leaks and repair as needed before operating engine.**

IDENTIFICATION PROCEDURE

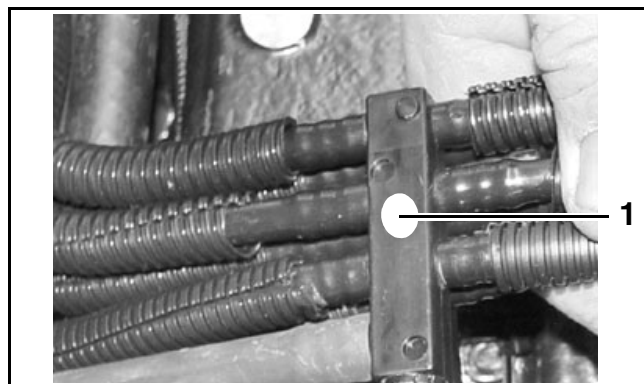
Every outboard that has been inspected, and/or had replacement fuel rails installed, must be easily identified.

Mark the engine using **WHITE** marker or paint. Place a large dot on both (#1 & #2) cylinder fuel injector cap retainers **and** on the fuel manifold to identify this campaign has been completed.



1. Identification marking

00204



- TYPICAL**
1. Identification marking

001742

ADDITIONAL INFORMATION

IMPORTANT: If the weld is incomplete OR visual inspection is inconclusive, replace the fuel manifold assembly as outlined above under **REPLACE-MENT PROCEDURE**.

THE CUSTOMER

Bombardier will send a letter to all registered owners instructing them not to attempt to start or use the outboard until an authorized *Evinrude/Johnson* dealer has completed the inspection or repair. This is a safety issue.

DEALER RESPONSIBILITY

All dealers, as part of a distribution chain, **CARRY A RESPONSIBILITY TO NOTIFY THE CUSTOMER** of any safety related concern and correct the problem properly.

Please contact all of your customers who have purchased these outboards and request they return their outboards to your dealership for this service. Only the designated serial numbers are affected.

A warranty claim form **MUST** be completed and submitted along with the following parts:

- 1) Original fuel return manifold (less rails).
- 2) Original fuel supply manifold (less rails).

Once removed from the outboard, cut the manifold from the rails. Thoroughly clean fuel manifolds of **ALL** fuel residue and place in a sealed plastic bag to prevent damaging the claim form. Discard the fuel rails.



TYPICAL – Fuel manifolds cut from rails

001738

You must return the completed claim with the fuel manifolds for warranty credit, and to ensure records are kept for recording program progress to the U.S.C.G.

Using a standard warranty claim form, use the following information:

- **INSPECTION** Flat Rate Code – **MI03**
- **REPAIR** Flat Rate Code – **MR03**
- Failing Part Number – **9999945**

Flat Rate Labor Allowance:

V4

- Inspection – **0.7 hours**
- Replacement – **1.7 hours**

V6

- Inspection – **0.5 hours**
- Replacement – **1.7 hours**

Labor will be paid in accordance with the established warranty labor rates listed in the current dealer warranty database.

Credit for labor and \$10 US to cover shipping and handling of returned parts will be issued only when the warranty allowance request form and required parts are returned. The proper return address is as follows:

Bombardier Recreational Products
Evinrude/Johnson Dealer Support Services
300 Seahorse Drive/Dock 5
Waukegan, IL 60085

For additional information, dealers can call 1-800-888-4662.